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RELATING
To Sanitary Character in
MILK, CREAM and BUTTER

* * *

A Subject of Future Paramount
Importance to Producers and
Distributors as well as Consumers
of Dairy Products

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*Why Milk, Cream and Butter, Produced
Under Robinswood Farms Methods
and Apparatus have the Only*
ABSOLUTE
Sanitary Character

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Introductory

In drawing the attention of those interested in dairy interests, to new methods that will be of vast general benefit, the Pan-American Dairy Company thinks it will be well to explain that Dr. J. M. W. Kitchen, the proprietor of Robinswood Farms, Gilmanton, N. H., thirty years ago acquired that estate as a summer home. He had held from his earliest boyhood an interest in dairy farming, and he became interested at Robinswood Farms in matters connected with sanitary dairying. Besides being a doctor of medicine, he is a producing inventor, and was frequently a visitor in Washington in connection with the prosecution of various patents of which over forty relating to fuel conservation have been issued to him. While at Washington he made the acquaintance of the heads of the Dairy Bureau of the Department of Agriculture, and from them acquired information relating to the very unsanitary condition of milk, cream and butter then existing. Because of that fact his attention was directed to remedying that situation. During these 30 years he has been engaged progressively in acquiring special scientific information from all available sources as to insanitary conditions relating to dairy foods, and has been inventively at work, as well as experimentally, in securing improved results, and in testing the same. Of the sixteen dairy patents that have been granted him, the first was issued to him in 1912. It was applied for as a possible benefit for neighbor farmers of the Gilmanton region. Later on, he came to see that the work that he was doing at Robinswood Farms was going to be of wide benefit to dairy interests and dairy-food consumers. On February 7, 1928, he received his twelfth patent relating to improved dairying. There are a number of applications pending relating to the same subject. All of these patents and applications have been assigned to the Pan-American Dairy Company for the purpose of handling the large business that will occur in connection with placing these patents locally in all communities in the U. S. and Canada.

In making this transfer of interests, it has been specified that the patent rights be preferably re-transferred to those who have already established trade interests, or to those who will work in pushing such interests, and on such easy terms as will be entirely satisfactory to already established interests.

The Pan-American Dairy Company Invites the Attention of all Interested in Dairying and Dairy Foods to Matters of Special Importance

Thirty years ago, Dr. J. M. W. Kitchen purchased Robinswood Farms, Gilmanton, N. H., and commenced experimental dairy farming as a matter of pleasurable interest. That work has later progressed as a matter of public duty. On Feb. 7th, 1928, the United States Government granted him his 12th dairy patent, which with others still pending, will gain the sanitary commercial control of the dairy industry of North America for 17 years. The Canadian Government had previously issued a broadly controlling patent for Canada.

ROBINSWOOD FARM ADVANCES IN DAIRY SCIENCE ARE NEW DEVELOPMENTS

Between the years 1905 and 1928 the results that were worked out at Robinswood Farms, will prove to be an important addition to generally known dairy science and practice. They will probably revolutionize the dairy industry.

It should be remembered that no one knew anything of the micro-organic world until after the invention of the compound microscope and the great Pasteur began his investigations as to the cause of disease in grapevines, wines and animals. Since then, bacterial science as related to dairying has only had a gradual growth. Now however that growth warrants the adoption of improved practices by the dairy world. This is specially true of the advances lately developed.

Until the year 1912 there had been little advance in dairy science since 1895. Since 1912 there has been a marked advance. With the exception of the work done in the laboratory of Michigan University, the most important steps have been taken at Robinswood Farms that will be related briefly in these pages. Further related educational matter in detail, has been put in special printed form for educational use by The Pan-American Dairy Company, the incorporation of which corporation was held back awaiting sufficient patent action, but is now effected.

Pasteurization has lately become widely practised. The people in 700 American cities can now buy pasteurized milk; but there are thousands of unfortunate communities today in which raw milk is being allowed to be sold as part of, or is the entire public supply.

It was discovered at Robinswood Farms that fermentation in the glands of cows' warm hides produced most of the foul contaminating gases that are common in winter made butter, that such fumes are inbreathed by and absorbed into the cows' blood, and are transferred to the milk as it is secreted in the cows' udders.

It took 10 years of investigation, invention and experimentation to find out how to successfully get rid of this gaseous contaminant. It is more or less present in the atmosphere surrounding all cows at all times of the year. With large herds, it can be perceived a mile to the leeward of the herds. The apparatus that was found suitable to practically overcome this contamination in cream, applies the principle of a rotating water wheel having perforated dippers replacing the water wheel floats. As the rotor revolves in the cream tank, innumerable bubbles of air are carried down into the cream and rise thru it, and as the dippers rise from the cream they elevate it, which in innumerable fine streams drip back into the tank thru the perforations in the dippers. The result of this continued cyclic aeration is, that all odors are in a few minutes eliminated from the cream; and what is more, acids in the cream are neutralized by being oxidized. This aeration is effected in conjunction with pasteurizing the cream; so that in a few minutes' treatment, off-flavored sour-cream has its character so changed, that it makes butter so much like sweet-cream butter in taste, smell and keeping quality, that it is difficult for even experts to distinguish the difference. The operation is effected in an apartment having an atmosphere from which dust and bacteria have been filtered; and from which the heated aerating atmosphere continually rising, escapes from a high level aperture of the apartment housing the apparatus. This device is patented, and will be put on the market. Other devised apparatus is better to use in the combined aerating and pasteurizing treatment of milk, tho the purifying effect is the same in both cases. For large creameries, a special aerating apparatus is desirable, which forces large quantities of bubbles of air thru cream by the action of a large power-blower run at a very rapid rate of speed; the air used, being drawn thru an air-conditioning and filtering apparatus.

Such purifying treatment eliminates some of the serious defects in milk, cream and butter; but does not eliminate the defects due to the accumulation of incubation-excretory-products of the infections that always more or less occur in producing cows' milk.

The reason why really sanitary milk, cream or butter have never been produced for public use, has been the fact of defective aeration, and incubations of milk infections at the farm and during transit to central stations before milk or cream have been pasteurized. The latest development at Robinswood Farms has been based upon perception of the need of a specific refrigerating apparatus to be used at farms for adequately reducing to and continuously maintaining the temperature of milk or cream at a non-fermentative degree before the milk or cream has lost its anti-fermentative power, and at such low temperature that incubation of the infections cannot occur. This temperature must be lower than what can be secured by icing, and should be at least as low as the freezing point of water, and even lower if the product is to be transported a considerable distance to a central plant for further treatment, in which complete aeration and pasteurization should be given followed by the non-fermentative immediate refrigeration which is necessary inasmuch as various bacteria are not destroyed by pasteurization; particularly, mold spores. (See the patents which describe fully the various influences producing sanitary and insanitary character in milk and cream).

It will be seen that what has been accomplished at Robinswood Farms not only successfully eliminates the gaseous putrefactive products from milk, cream and butter; but also prevents the formation of the bacterial incubatory excretory products that up to present date, have been more or less contaminating all milk, cream and butter. Inasmuch as it is a simple, practical and inexpensive method to overcome such defects, it will be seen by sellers of milk, cream and butter, as well as producers, what a vast opening is presented for securing what is believed to be the complete solution of securing entire sanitary character in such dairy products.

It is thought that practically all Health Authorities, as well as all progressive milk dealers in the United States and Canada, will agree to the following six sanitary propositions:

1st. It is desirable to have a reliable source of properly pasteurized, entirely sanitary milk in every community in which milk is publicly distributed.

2nd. This is desirable as a matter of safety against accidental infections and careless producers, and also to enhance keeping quality in milk, cream and butter.

3rd. It is desirable that no raw milk should be publicly sold unless produced under the continuous, direct and publicly paid-for supervision of expert sanitary authority.

4th. It is desirable that milk as well as cream should be pasteurized before bacterial incubation has commenced in those foods.

5th. It is desirable that gaseous putrefactive contaminations in milk and cream should be thoroughly eliminated *before* their consumption.

6th. The *best* sanitary character in butter can only be produced from sweet unfermented cream that has been pasteurized as well as completely aerated.

To secure the best sanitary results in the public milk supplies, all lactic fluids should be better protected against fermentation in transit from the points of production, during carriage to central plants, and to consumers' residences; and particularly, they should be protected at the receiving railroad stations, against atmospheric heat during warm weather, and all the year, during delivery, by carrying the containers in sheet-cork-lined delivery cases, having covers. The way bottled milk and cream are exposed to atmospheric heat in the summer season during delivery, is abominable practice, that should be changed.

Milk should be distributed in better containers than what have yet been used. Such containers have been developed, but not yet placed on the market. (See the Robinswood Quick Lock Closure.)

It should be obvious that to secure the very highest sanitary character in butter, calls for the use of sweet unfermented cream that has been produced from specially, properly treated milk. With the advantage of starting with the production of a sanitary character in butter hitherto unknown, and controlling the manufacture and sale of that butter in the United States and Canada, which product can be advantageously advertised under an adopted trade-mark-name, it is clear that a permanent butter business of a stupendously large extent can be developed that would be permanently profitable.

THE COMMON INSANITARY DEFECTS THAT MORE OR LESS EXIST IN MILK, CREAM AND BUTTER

1. Various known solid uncleanly matters that contaminate milk during its production. Every producer knows what they are.

2. Uneliminated gaseous cowy fumes that are inbreathed in barn-stables and elsewhere by cows.

3. Acid and putrefactive bacterial incubated excreted pro-

ducts due to inadequate depth of refrigerative influences being applied soon enough after the time of drawing milk and up to the time of delivery of the milk-product to the consumers. An icing temperature is not low enough to fully preserve a dairy product. Icing is also expensive.

4. Poor methods of pasteurization, and neglect to apply that process before milk has lost its natural self preservative power. This defect includes pasteurizing only a part of the milk soon enough.

5. All sanitary butter should be made from cream separated from highest character milk. Cream should be pasteurized as well as milk; and both should be completely aerated. This defect in aeration has been substantially universal, both as to milk and cream.

6. Practically all operations in treating milk and milk derivatives, should be conducted under conditions in which atmospheric infections are prevented.

N. B. For a more thorough understanding of the Robinswood Farms' methods and apparatus, procure and study the specifications and claims of the United States and Canadian patents. For their numbers apply to The Pan-American Dairy Company, East Orange, N. J. Also ask for information as to patent applications still pending. Over a dozen new patents have been issued, or lately filed and are pending.

THE CHARACTER OF MILK, CREAM AND BUTTER THAT HAVE BEEN TREATED BY ROBINSWOOD FARMS' METHODS AND APPARATUS

1. They are devoid of bacterial excretions that always exist in such products that have undergone any acid or putrefactive incubations.

2. They are devoid of protein split decomposition poisons that are due to the death of incubated or other bacteria of primary or later infections.

3. They are free from the putrefactive gases that cows inbreathe or produce internally and transfer to their milk at the time of its formation in the udder.

4. They are free from living pathogenic germs that may have been derived from primary milk infections, or which may follow accidental infections.

5. They are free from infections that result from incubation

of the residue of the bacteria that usually are not destroyed by pasteurization.

6. They are in a state of temperature that is substantially non-fermentative.

7. They are free from the acids that damage the keeping quality of butter, and edible character of milk.

8. They are free from solid compounds resulting from chemical neutralization of acids.

9. They have not lost the nutritive value following incubative growth of, and consumption by contained bacteria.

Such products can be *guaranteed* to be fully sanitary in character, and better food nutrients than any other form of animal food, whether consumed alone, or in conjunction with cereal, fruit or vegetable foods.

It will be understood that it is not proposed to at once displace all the present grades of milk and cream supplies. What is proposed is to gradually produce milk, cream and butter that will be better in character than so-called, high cost "certified" milk as well as grades A and B milks and creamery butter, and in such amounts as consumers are willing to pay for at a reasonable advance in price. This supra-character in milk will not cost more than really good grade A does cost at present. Supra-Sanicertan milk and cream of this character will be gradually bought in large amounts if properly advertised. Such use would lead to a very much larger consumption of such milk, and it ought to lead to mergers of the better class dealers who are now suffering from conflicting interests due to the interweaving of distributing routes. Such mergers would probably eliminate all disreputable dealers in time. The production of $1.00 a pound butter could also be collectively effected.

The proposition is to produce and sell such classes of milk products as has never before been produced. The public will pay for such improved character; and the monopoly will return an extra profit.

An improved method of handling and printing butter is a part of Robinswood Farms' advance. (See illustration of the Robinswood Farms' butter-print cutter. It is unique.) Improvements in drying milk, and also in acid and other sanitary lactic beverages, as well as lactated dried foods, have been evolved. Favorable action has been given by the U. S. Patent Office as to the method of deep electrical refrigeration of milk and cream at farms.

POSSIBLE SCIENTIFIC PRODUCTION OF MILK AND MILK PRODUCTS

From all that we know of the value of cows' milk and its derivative products, the more it becomes clear that allowing any part of their production to be left in the hands of ignorant, careless and financially weak farmers, is a mistake so far as producing products of the highest sanitary character. The average farmer is too ignorant, helpless and careless as an individual to expect to attain thru him the most desirable sanitary results. Milk of poor sanitary character may be tolerated for the use of ordinary adult human consumption because it can be produced at the lowest cost; but as human society develops in civilization, it becomes more and more certain that many women in the more intellectual classes, are not the best milk producers for the children they bear. They don't equal as milk producers women in the lower and physically more hard-working classes.

It goes without saying, that the application of the best trained mental development, plus adequate capital operated by at least one or a few operating corporations, will secure the best opportunity to benefit producers and distributors and those consumers who can afford to pay the costs of the highest character in such products. If this thought is sound, it follows that the plan herewith submitted should be substantially acceptable. Large organizations should take in hand the formation and management of central milk treating and butter making plants in healthful locations, that will conduce to the health of cows, which should be kept and housed in herds of not over 100 in number, and be given abundant exercise especially in the warmer season. There are thousands of locations throughout the country where groups of farms and buildings can be purchased at moderate prices, where the application of moderate capital and especially trained brains would not only produce products of the best character, but also produce them at a lower cost if the central plants are so located that milk can be transported from the cow barns to the plants inside of four hours; and in case of market milk and cream, or cream for butter making with refrigerative influence applied at the farm will enable the cream to be given such non-fermentative temperature that it can be transported through collection by auto truck from over large territories for butter making or shipping especially if deeply refrigerated at the farm. Of course such special central plants should have the facilities for producing market milk, cream and dried milk, as well as butter in printed form. Such plants should have good land drainage and pure atmospheric surroundings.

The simple apparatus evolved at Robinswood Farms for aerating, pasteurizing and refrigerating cream at the farm ought to be used on many thousands of farms to prepare cream to be sent to the large central creameries. On such farms as have the benefit of the electric current there are thousands of farms at which "Sanicertan" butter can be made, stored and shipped to central plants for printing and distribution, all of which plants can be controlled by a special dairy company, both as to sanitary supervision, advertising and sale—and preferably on a commission basis. There are many thousands of farmers who have enough capital to erect a plant such as is at Robinswood Farms, who would greatly benefit themselves as well as surrounding farmers is so doing, even if they established central electrical generating plants for such dairy, as well as other farm work.

If the recipient of these pages has a well located plant that can be modified to produce the better product; or if he can put up the money individually or in conjunction with other dealers to do so, erecting such plants will enable the better products to be distributed in smaller communities to high class trade.

WHO SHOULD ACQUIRE LOCALIZED RIGHTS TO PRODUCE ROBINSWOOD FARMS SANITARY CHARACTER IN DAIRY PRODUCTS?

The answer is: any one who is not satisfied with the amount of money he is making in producing and selling milk, cream and butter, or who may feel satisfied that he is not doing the best for the interests of his future patronage.

It is not expected that the larger milk companies would immediately feel fully ready to advertise to their patrons that they are not doing for their patrons what it is desirable for them to do. But it would pay any large milk company to acquire the right to produce and sell absolutely sanitary milk of the character which is only possible to secure *legally* by acquiring the rights to produce absolute sanitary character in milk, cream and butter. This would be particularly the case in smaller, growing companies who can acquire the money to make the slight changes that are needed in central milk receiving stations in dairy districts, to effect the sanitary results that can be easily effected. In particular, it would pay competing companies to *merge* their interests and sell the improved product unitedly under a separate name with special service. It is certain now that as Robinswood Farms has made this advanced step, it will eventually be taken up everywhere.

Milk, Cream and Butter made by applying the patented methods and apparatus evolved at Robinswood Farms, Gilmanton, New Hampshire, are the only milk, cream and butter that are absolutely sanitary in character, and of the highest edible character. The reasons why they possess such character is that in their production, all of the methods and apparatus factors that must be applied to gain such advanced results, have been applied in their production. This advanced practice has never before been effected.

"SANICERTAN"

Is the trade-mark name adopted to designate the sanitary character of dairy products produced under the Robinswood Farms methods and apparatus.

It should be noted that if applied with intelligent knowledge, they cost little or no more to produce such products than those of inferior character.

Attention is drawn to the .Robinswood Farms Quick-Lock Milk Bottle depicted on the back cover of this pamphlet, the only perfect milk container. Inquiry should be made as to the special aerating, pasteurizing and refrigerating apparatus also evolved at Robinswood Farms.

For all further information relating to the Robinswood Farms advances, address:

THE PAN-AMERICAN DAIRY COMPANY

At the Company's Home Office

East Orange, New Jersey

The Ideal
Sanitary Milk Container
The Robinswood Farm
Quick Lock Milk Bottle

Protected by Method and Apparatus Patents

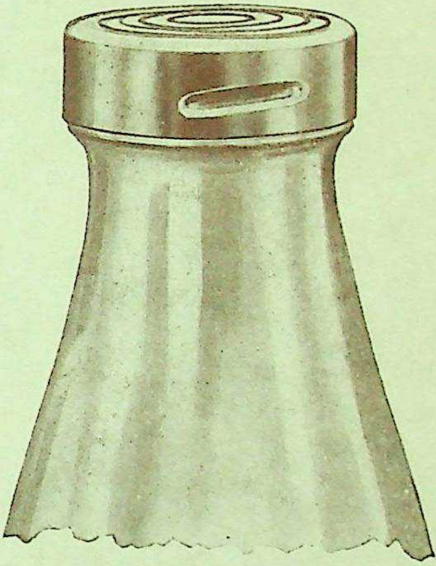
Inexpensive

Simple in Form

Convenient in use

Easily Cleaned

High Efficient



Completely protects against infections both the contents of bottle and Exterior of Lip

The best, and only satisfactory bottle for Pasteurizing in the bottle.
Also, the best distributing container for raw milk
and cream, or milk pasteurized in bulk.

Pan-American Dairy Company

Sole Owners and Distributors

East Orange, N. J., U. S. A.